FineArt print, pigment ink as "one" cost driver

Anyone who - like us - has been involved with printing on so-called "pigment inkjet printers" since the turn of the millennium may find the following thoughts and resulting wishes in the direction of the industry familiar.

After the change from analog photography to digital darkroom and digital photography, the "Epson Stylus Photo 2100" was the first serious and affordable printer of this kind in the 13" (A3+) class to create so-called "archive-proof prints" that can last for many decades behind museum glass without losing quality.

Later, we used the "HP B9180" (12") and the "HP Designjet Z3100" (24"), two devices of the company "Hewlett & Packard" commercially for "FineArt Prints", before we subsequently had the almost legendary "Epson Stylus 3880 Pro" for many years in private use, since 17" (A2+) is usually enough for us as a maximum output size and the majority of our prints are made in the format 13" (A3+).

As much as "pigment inkjet prints" on "fine art papers" are exciting, they are expensive. Cost drivers are the **purchase** of the device, its **maintenance**, **power consumption**, the **paper**, and especially the **pigment inks**.

In the following, we will focus primarily on the pigment inks. If you print a lot, you will quickly notice how often you have to replace the very expensive cartridges with pigment inks. The smaller the possible output size and cheaper the printer, the smaller and more expensive the cartridges. The larger the possible output size and more expensive the printer, the cheaper the ink. For the consumer, this is an unattractive and costly correlation, especially since devices in the 13" and 17" class are predominantly found in this customer group, and devices with larger output sizes play almost no role here.

Some photo enthusiasts try to improve the high costs of the manufacturer's own pigment inks by using so-called CIS (**Continuous Ink Supply Systems**) with pigmented third-party inks in their favor. However, this has some disadvantages, which we do not want to discuss in detail here. The loss of the printer's manufacturer's warranty alone is a weighty reason to advise against such a procedure. In addition, many third-party inks do not achieve the quality of the original inks and may have a lower gamut (size of the possible color space) and in the worst case show so-called "broncing" or unfavorable "metameric effects", which result in an undesirable color cast, especially in black-and-white printing. In addition, separate ICC profiles have to be created for these inks, which in turn entails costs. The durability of these inks is rarely known.

If you look at today's market for "pigment inkjet printers" up to 17" (A2+), you will see that "Epson" and "Canon" dominate it. The company "Hewlett & Packard" shows only a small commitment in the "Pigment Inkjet FineArt Print" and unfortunately no longer plays a major role.

"Epson" offers two high-quality printers in the 17" class with the "SureColor SC-P900" (14.8 kg)[1] and the "SureColor SC-P5000", which enable excellent prints (both color and b/w). The "SC-5000"

1 Epson also has the 13" variant with the "SureColor SC-P700" (12.60 kg) in its program. Here, the cartridges only have a capacity of 25ml and cost an expensive 33,25€ at Epson. The print quality is identical to the SureColor SC-P900, and both devices are very similar apart from the print format.

is a professional device, which also stands out due to its weight (52 kg). Unfortunately, the ink volume in the cartridges of the "SC-P900" has been significantly reduced from 80 ml to 50 ml compared to its predecessor ("Epson Stylus Pro 3880"). The "SC-P5000" puts a real exclamation mark here with its 200ml cartridges. With a price of over 2000€ compared to the just under 1100€ of the SC-P900, you can quickly see the manufacturer's cost calculation, especially when you see that the cartridges of the "SC-P5000" are just over 100€, while those of the "SC-P900" are an expensive 44€[2]. For frequent printers, the "SC-5000" can thus be the better offer.

"Canon" also offers two very good printers in the 17" and 13" segments with the "imagePROGRAF PRO-1000" (32.3kg) and the "IMAGEPROGRAF PRO-300" (14.4kg). The "PRO-300" also catches the eye with its very low cartridge fill volumes of 14.4ml. "PRO-1000", on the other hand, holds quite large cartridges with 80ml. Each cartridge costs about 70€, while the "Pro-300" costs a very expensive 19€[3].

80ml sind auch die Füllmenge welche man noch vom „Epson Stylus 3880 Pro“ kennt und die jeweils eine befriedigende Anzahl von 13" Prints bietet. Die Hersteller machen auf ihren Webseiten Aussagen zur Anzahl von möglichen Druckseiten, die unserer Erfahrung nach im praktischen Betrieb niedriger liegen und an Aussagen zum Kraftstoffverbrauch von Kraftfahrzeugen erinnern.

That the ranges and costs of the printers can be very different is shown by druckerchannel.de in a comparison of the two 13" printers from Epson and Canon, among others. "Glossy optimizers", as with Canon, can strongly influence the calculation.

The cost intensity of "pigment inkjet printing" has led many of our former customers to stop "fine art printing" with tears in their eyes, or at some point to print so little that the low usage significantly increased the maintenance intensity of the printers, which ultimately also led to the abandonment of printing activities.

Today, "pigment inkjet print" is still something for better-off photo enthusiasts or photo and print professionals who can make a "return on investment" by selling the prints or the printing service. However, the market has become so difficult and small that we discontinued our services in this area years ago because it was no longer economically viable.

However, the following question gave us some hope for the possible development of the market in the coming years, because in our opinion the whole market of fine art printing is currently not characterized by growth, on the contrary.

Some months ago we exchanged our "HP Color Laserprinter" as office printer and replaced it with a very economical "Ecotank-Multifunction Inkjetprinter" from the company "Epson". It is very pleasing to see how much lower the printing costs are compared to the "HP Color Laser Printer". At "Canon" such printers are called "mega tank printers". Both are characterized by the abandonment of the previously known cartridges with chip. Instead, these printers are refueled with refill bottles, which are also quite large in volume.

At the same time, we came across articles and YouTube contributions about an attractively priced "Epson Ecotank photo printer type ET-8550" at "Northlight Images" by "Keith Cooper" and

2 Prices from the manufacturer's online store. Elsewhere, the cartridges can be purchased cheaper on the market.
3 Dito.

"photopxl.com" by "Kevin Raber". Both authors attest the "Epson Ecotank photo printer" with its 6 colors quite a good print quality.

However, there are limitations and they start with the fact that only the black inks are pigmented inks and the other inks are so-called dye inks. Unfortunately, there are only very vague statements about the durability of the prints on the part of "Epson" and on the well-known website "Wilhelm Research", this ink set has unfortunately not yet been tested to make statements about the durability of the prints made with it. Further disadvantages are the limitation to 13" (A3+), as well as a built-in scan unit in the printer, which is of course paid for, but should only interest a few photo enthusiasts.

Even though the "Epson ET-8550" seems to be a good early choice for an "Ecotanker" in photo printing, there is still a lot of room for improvement compared to the "pigment inkjet printers" and their qualities, regarding the quality of the prints, especially black and white, but also the question of the durability of these prints. Furthermore, there is the question of mechanical qualities and durability of the printer.

The "Epson Ecotank technology" or analogously the "Megatankers" of the company "Canon" are an interesting and promising approach, also for the "pigment inkjet print". The considerably lower printing costs of these devices (but also environmental aspects with regard to the cartridges with chip) would make "FineArt-Print" attractive and affordable again for many photo enthusiasts and make it easier for newcomers to enter this segment. Consequently, it would be desirable if the manufacturers in the succession of the current 13" and 17" devices would rely on these technologies without turning to other parameters of the printers in such a way that the costs for the "pigment inkjet print" then rise again and nullify the possible savings!

The coming years will show whether this wish will come true.

However, we are convinced that this would also significantly "fire up" the activities of our association work in the context of FineArt printing and we could once again inspire more people for this creative activity.

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